

Digital Site Logistics

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Medium-sized and large international airports without a hub function for air freight often have highly fluctuating utilization of cargo centers, while logistics in other areas of the same airport frequently suffer from major bottlenecks. At German and European airports in particular, this is caused by traffic development, space limitations and competing space requirements.



Goals & Opportunities

The sub-project "Digital Site Logistics" is developing approaches to improve this imbalance in the logistics of airport locations as a whole. By merging the services of air cargo and supply logistics, an improvement in capacity utilisation on the one hand and a resolution of the bottlenecks on the other are to be achieved. In order to use the commonalities in a meaningful way and to fulfil the necessary need for differentiation, digital solutions to support integrated logistics services will be applied and tested.

The goal of SP4 is to develop, implement and test additional services for the air cargo centre in order to take over the function of a logistics centre for the supply and disposal of the entire airport location. The aim is to increase the utilisation of the existing resources and infrastructure, which at the same time improves the economic efficiency, sustainability and resilience for the air cargo handlers in the face of fluctuating demand.

Desired Outcomes

The intended outcome of the project is the development and validation of a digitalised terminal supply concept that can be implemented in an integrated manner in air cargo handling. The basis is a process model and process descriptions for the integration of the various logistics processes within an airport location. These also include the necessary interfaces and standard modules for connecting the individual process participants.

According to this concept, an exemplary implementation as a demonstrator takes place in a real test environment and with validation of the test operation. The digital design, equipment and support of the processes play an essential role here. Only through digitalisation can services that were previously operated separately be integrated efficiently and in line with requirements.

Challenges

The main challenge is to demonstrate the feasibility and advantages of integrated logistics at the location to the process owners for cargo, passengers and flight operations who are strongly segmented within the airport, to create a willingness to integrate and to jointly dissolve the organisational, technical and administrative barriers. Digitalisation offers a great opportunity as a joint innovation approach.

Partner

